

plant in the Botanical Gardens at Cambridge, and for my own collection, I was unintentionally too good a collector, and probably extinguished the plant, though thinking enough had been left for seed. Dr. Gray, on requesting the plants, said they were difficult to raise from the seed, which may account for those left disappearing the year after the first and second crop of specimens was reaped, there being but few at the best. It grew on the gravelly banks of the river, and it would be well for collectors to look for it in similar situations within the range above indicated, at least, with the precaution, if found, of not cropping too closely, unless there is an "abundance" at Ottawa for all who may seek it personally or by exchange.—

E. J. HILL, *Englewood, Ill.*

ALTERNATION OF GENERATIONS.—A discussion of the subject of the "alternation of generations" in the *Journal of Botany* for November, may be given in brief as follows:

So far back as 1849, Hofmeister pointed out that the prothallium of the Vascular Cryptogams is morphologically equivalent to the *moss-plant*; that a Fern or a Lycopod is the homologue of the *moss-fruit*; and further that in both Mosses and Ferns the asexual is interrupted by a sexual reproduction, this interruption occurring at an earlier stage in Ferns than in Mosses, and that the sexual and asexual generation regularly alternate.

So soon as these views were generally accepted, attempts were made to apply them to the life-histories of the Phanerogams on the one hand and of the Thallophytes on the other. Such an application is rendered difficult in the case of the former group, by the very intimate connexion of the two generations in the ovule, which makes their exact distinction a matter of some uncertainty; and in the case of the latter group by the more or less complete independence of the two generations and by the frequent repetition of the one before the recurrence of the other.

The generations of Thallophytes, like those of Cormophytes, begin in all cases with a free cell, the spore, but unlike those of Cormophytes, the generations are distinct and do not remain in organic connexion; consequently it is impossible to regard the "fruits" of Thallophytes as representing an entire generation.

The fact that such groups as the *Conjugatæ* and *Fucacæ* exist, which exhibit no alternation of generations is presumptive evidence against it. It seems to be more in accordance with the fact to say simply that a sexual Thallophyte may reproduce itself either sexual-

ly or asexually, the mode of reproduction depending more especially upon the external conditions.

Speaking generally, it is not possible to say of a *spore* of any given Thallophyte that the product of its germination will necessarily be a sexual plant, nor is it possible to say of the *oospore* that the product of its germination will be necessarily an asexual plant.

The results of the discussion are summed up as follows:—It appears that it is impossible to detect any distinct alternation of generations in the life-histories of Thallophytes, with the exception of the *Colocephata* and the *Characeae*.—A. P. MORGAN.

MELANTHIUM VIRGINICUM.—Seeing Mr. Broadhead's notice of the above species I would like to give my observation about it. I found this beautiful plant first in 1874, on a piece of woodland where the underbrush was very small, along with *Stenanthium angustifolium*. But as soon as the underbrush grew higher it was nearly gone. This year upon another piece of woodland, where I had before only once found a few specimens, the bushes had been burned, and I found *Melanthium Virginicum* in great abundance. It also grows abundantly on the Missouri Pacific Railroad, between here and Kirkwood. It is evident that the plant likes air and light. If the light is excluded, the bulbs simply remain in the ground and do not grow.—

H. EGGERT, *St. Louis, Mo.*

THE GENERA PLANTARUM of Bentham and Hooker.—The first part of the third and concluding volume of this important work—to comprise the remaining Dicotyledonous orders—is now in press, and will be published in London at the close of the year. It is convenient and may not be improper to announce in the BOTANICAL GAZETTE, that most of the botanists of the United States who possess this indispensable work thus far have procured it through the mediation of the subscriber, who, in view of the number of copies thus taken is supplied at a considerable discount, the whole advantage of which inures to the recipient. The two volumes already completed are published at £5, 6, 0. The price charged the subscriber is £4, 8, 0. The new part will be furnished at a similar discount. Botanists who have in this way obtained the published parts, and who wish to receive the remainder through the same channel, are requested to communicate their wishes in this respect, without delay, to The Curator of the Herbarium of Harvard University, Cambridge, Mass.—

ASA GRAY.